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AIR UNIVERSITY

AIR FORCE FITNESS CULTURE:

ARE WE THERE YET?

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Biography

Colonel Thomas F. “Chet” Roshetko is a native of Cleveland, Ohio. He is the proud husband of Karla and privileged to be father to a daughter, Katelyn Christine and three sons, Regan Kelly, Trenton Keith, and Brennan Michael. In 1985 he earned his Bachelors Degree in Nursing from Bowling Green State University, Ohio and was a direct commission in January 1986. He subsequently earned a Masters Degree in Human Resource Management from Troy State University, Alabama. Col Roshetko currently attends Air War College at Maxwell Air Force Base, Alabama. Just prior to this assignment he served as Commander, 81st Inpatient Operations Squadron (IPTS), Keesler AFB, Mississippi. During that assignment he activated the first IPTS in AF history. During this tour he led the post-Hurricane Katrina rebuilding of Keesler Medical Center Medical inpatient services, to include growing a staff from 35 to over 200 members, establishing four flights, expanding capacity from 6 to 77 beds, and opening three new inpatient units.

His varied career assignments include staff nurse on multiple inpatient units, emergency room evening supervisor, TRICARE contract administration, AMC/SG Executive Officer, two time flight commander, and Commander, 1st Special Operations Medical Operations Squadron, Hurlburt Field, Florida. He also co-designed the AF Fit-to-Fight policy.

The Air Force significantly overhauled the Air Force Fitness program in 2003 and released a new fitness AFI in January 2004. Since that time, Air Force leadership has reevaluated this program several times, resulting in multiple program updates. Overall, subjective and objective data reflect an improved fitness commitment across the Air Force. Unfortunately, after 61 operational months, it appears that the program remains short of accomplishing its primary goal of motivating "all members to participate in a year-round physical conditioning program that emphasizes total fitness, to include proper aerobic conditioning, strength/flexibility training, and healthy eating."[1] This PSP will evaluate the evolution of Air Force fitness and some options for reaching full program effectiveness. Areas of discussion will include Military Fitness Requirements, Air Force Fitness Program History, and the Fit-to-Fight Era. It will conclude with Air Force Fitness—A Way Ahead that recommends developing a better Air Force fitness culture by improving alignment of health and fitness issues. The conclusion will also suggest several minor program adjustments including renaming the AFI, limited use of random testing, approving wear of pedometers in uniform, and better analysis of fitness data.

Military Fitness Requirements

Department of Defense Fitness Requirements

DoD Instruction1308.3, DoD Physical Fitness and Body Fat Programs, 5 November 2002, provides the legal directive for military fitness. Specifically, DoDI 1308.3 charges each military branch to be responsible for assuring service members maintain physical readiness through appropriate nutrition, health, and fitness habits. It is stipulated that at a minimum,

[1] United States Air Force, Air Force Instruction 10-248, Fitness Program, 22 September 2006, Incorporating Change 1, p. 1

physical conditioning must include aerobic capacity, muscular strength, muscular endurance, and desirable body fat composition.[2] A fitness program must therefore be designed to enhance fitness and general health, meet the services specific mission requirements, and include an annual assessment of each member's fitness.[3]

Air Force Fitness Requirements

Air Force Instruction 10-248, Fitness Program, serves as the AF's policy to meet DoDI 1308.3 and its objective is to assure that airmen attain physical fitness levels sufficient to meet the global AF mission. In summary, this 87-page document provides detailed administrative procedures, assigns responsibilities to 28 different individuals/offices, extols the benefits of fitness, describes required reports, and lists disciplinary action for non-compliant airmen. The AFI details minimal exercise requirements for each airman, including aerobic conditioning in the 70-85% maximum heart rate range for 20-60 minutes. It states that this should be done 3 days per week to maintain current fitness level and 4-5 days per week to improve fitness levels. It also stipulates strength training requires moderate weight bearing through a full range of motion using all major muscle groups at least 2-3 times per week. The annual fitness assessment serves as a primary compliance measure. The test consists of four scored components: a 1.5 mile run, a 1-minute push-up, a 1-minute crunch, and an abdominal circumference measurement. Summed component points produce a single composite score based on a 0-100 scale. Airmen must achieve 75 points or greater for a "passing" score. Airmen scoring below 75 are entered into an interventional program to include education, exercise oversight, and must retest within the next 45-90 days.

[2] Department of Defense, Department of Defense Instruction 1308.3, *DoD Physical Fitness and Body Fat Programs Procedures*, 5 November 2005, p. 2
[3] Ibid, p. 2,4-6

Air Force Fitness Program History

1947-2001: The Searching Years

Through the decades, the Air Force fitness program has walked a twisted path to arrive at its present status. Rather than focusing on assuring regular personal conditioning, the AF has spent decades searching for the latest and greatest annual evaluation tool. In his autobiography, A General's Life, Gen Omar Bradley provides fitness frustration examples dating back to WWII. He states, "The rudest shock we experienced with the draftees was the discovery that they, the prime of America, were generally in appallingly poor physical condition. Only a few were capable of hard sustained physical exertion that we knew they would experience in combat."[4] In response, the Army instituted an intense 16-week physical conditioning for recruits. Due to war conditions, the Army felt little need to push formalized fitness beyond basic training. In fact, not until the draft ended in 1973, did the Army become concerned about retaining fit soldiers, with primary focus on the growing obesity problem.[5]

At first, the Air Force continued the training-camp only Army program when it became a separate service in 1947. Later that year the AF published a 3-paragraph fitness regulation leaving implementation to the MAJCOM's discretion.[6] The AF fitness program remained essentially unchanged from 1947 to 1959, when the Air Force School of Aviation Medicine concluded that "the overall state of physical fitness in Air Force personnel is poor."[7] At that time

[4] Bradley, Omar; Blair, Clay, *A General's Life*, Simon and Schuster Inc., New York, New York, 1983, p. 106
[5] Forman, Mark A., Maj; *Too Fat to Fight—Too Weak to Win, Soldiers Fitness in the Future*, US Army Air Command and Staff, Leavenworth, Kansas, 1997, p. 4
[6] Gindhart, Richard T., Maj, USAF, *The Air Force Physical Fitness Program Is It Adequate?*, Air Command and Staff College, Air University, Maxwell AFB, April 1999, p. 14
[7] Ibid, pp. 14-15

the AF instituted mandatory weekly physical exercise, but set no mandated fitness standards until 1962. For the next seven years the Air Force assessed conditioning via age-based weight standards and a timed 5-component strength test.[8]

During the 1960's, Air Force Major (Dr.) Kenneth Cooper, developed a fitness conditioning program for astronauts. His efforts revolutionized preventative medicine and created "aerobic" conditioning. He pioneered cardiovascular exercise and in 1969 the Air Force implemented his fitness plan. Unfortunately, the AF primarily focused on an annual 1.5 mile run rather than emphasizing Dr Cooper's weekly exercise point system. The annual run test remained in place for 23 years, but during this time the AF did nothing to proactively push personal fitness programs.

In 1992, in what may be considered one of the Air Force's all-time controversial decisions, the AF implemented an annual sub-maximal heart rate test called cycle ergometry. This was done at the behest of those pushing for greater science and safety. It was decided that riding a stationary bike for 8-14 minutes would maximize safety and still adequately assess military fitness. With this, the organization most responsible for pioneering aerobics walked further away from the very research that had taken the wellness world by storm. Several problems resulted from cycle ergometry testing, but the most important was the Air Force once again relegated year-round personal aerobic conditioning to secondary importance. Just 14 years earlier, Maj Cooper used data from 5,000 airmen to publish the world's most comprehensive study on health improvements secondary to aerobic exercise.[9] Although Maj Cooper identified several assessments to measure individual fitness levels, he repeatedly

[8] Forman, Mark A., Maj; Too Fat to Fight—Too Weak to Win, Soldiers Fitness in the Future, US Army Air Command and Staff, Leavenworth, Kansas, 1997, pp. 22,26

[9] Cooper, Kenneth H., Major, Aerobics, M. Evans and Company, Inc., New York, New York, 1968, p 17

emphasized daily personal fitness conditioning as the key to increased health and wellness. Dramatically, he highlighted the unfortunate fate of American farmers as a clarion call for increased physical fitness. He stated, "Years ago, you could predict, sight unseen, that they were all in excellent condition. Not so today. The farms…have become so mechanized…the rural men are not much better off than their sedentary city brothers. The young recruits…today (1968) show little difference between boys raised in the city and…on a farm. Sad, but true."[10]

Unfortunately, AFI 40-501, The Air Force Fitness Program, dated 1 October 1998, changed only the test process and not the overall AF fitness mindset. The AFI required commanders to allow members to exercise three times per week on duty unless "mission requirements directly prohibit doing so."[11] It also required airmen to "meet and maintain Air Force fitness standards through participation in a regular and consistent exercise program throughout their military service, and into retirement."[12]

Despite this mandatory requirement a 1995 DoD survey that found only 50% of airmen self-reported meeting exercise standards, ranking the AF last of the four services.[13] In April 2002, the AF Population Health Support Division (PHSD) determined self-reported minimal fitness activity levels had increased to 65%.[14] Both of these surveys are likely inflated since most studies of self-reported exercise prove to be exaggerated. In fact, studies show self-reported conditioning programs become more inflated in direct proportion to decreasing levels of

[10] Ibid, p. 62
[11] United States Air Force, Air Force Instruction, 40-501, The Air Force Fitness Program, 1 October 1998, p. 13
[12] Ibid, p 15
[13] Wilkinson, William J., et alt, "Physical Fitness & Health: A Comparative Review of the USAF Fitness Program," United States Air Force Research Laboratory, SM-FE-BR-TP-2000-0001, Jan 2000, p. 3
[14] Roshetko, Thomas F., Lt Col, "An Analysis of Air Force Fitness Policy, Culture, and Impact, Air War College, Maxwell AFB, Al, 29 May 03, pp. 5-6

fitness and/or increased levels of excess weight.[15] Furthermore, AF leadership's test-centric myopia can be illustrated further by the fact that no AF forum ever requested exercise activity data. Therefore, in 2003, the AF Fitness Program Manager needed to run a special query report for the working group designing the Fit-to-Fight program (at that time called WarFit).[16]

The cycle ergometry era can be complemented for attempting to better quantify testing, but unfortunately, the test's limitations diluted the results. In fact, in the mid-90s, the Uniformed Services University of the Health Sciences (USUHS) evaluated cycle ergometry's effectiveness. Under controlled studies, USUHS determined that 77% of tests had a predictive error rate greater then one standard deviation. The report stated, "In sum, the Air Force test...is unreliable and underestimates VO2 (on average) by approximately 15%."[17] Furthermore, the error rate was 960 times more likely to underestimate fitness than to overestimate fitness.

To accommodate these (and other) test sensitivities minimal passing scores were set between the 7th and 18th percentile range of the adult U.S. population. Thus airmen who barely passed cycle ergometry testing reflected fitness levels equivalent to the least fit civilians. Despite these low standards, at the conclusion of CY 02, only 73.15% of the airmen who took the test achieved a passing cycle ergometry score. In addition to these poor test results, 22.8% of the AF did not complete the required annual test.[18] Most importantly, because cycle ergometry

[15] Walsh, M. C., et alt, "Comparison of Self-reported with Objectively Assessed Energy Expenditure in Black and White Women Before and After Weight Loss," American Journal of clinical Nutrition 79, 2004, pp 1013-1019
[16] Roshetko, Thomas F., Lt Col, "An Analysis of Air Force Fitness Policy, Culture, and Impact," Air War College, Maxwell AFB, Al, 29 May 03, p. 17
[17] Lockwood, Park A., et alt, "Comparison and cross-validation of cycle ergometry estimates of VO2 max," Official Journal of the American College of Sports Medicine, Vol 29, No. 11, 1997 pp.1512, 1514-1515
[18] Roshetko, Thomas F., Lt Col, "An Analysis of Air Force Fitness Policy, Culture, and Impact," Air War College, Maxwell AFB, Al, 29 May 03, p. 18

measured a sub-maximal heart rate response, there was limited ability to predict the Air Force fitness capabilities under intense combat conditions.[19]

2001-2004: The Origin of Fit-to-Fight

Many times experts conceive of better ways to do things, yet need to wait for the right opportunity to introduce their idea. So exercise physiologists and health promotion experts across the Air Force anxiously waited for a chance to improve the AF fitness culture. In November 2001, the door to changing the fitness program opened slightly and the full weight of the AF/SGP office and many field offices applied pressure.

While presenting an overview on AF medical issues to AFSPACE leaders, Col Steve Meigs, AFSPACE/SG, reviewed findings from two DoD studies regarding similar prevalence of obesity between active-duty and civilian males (59% and 62%, respectively).[20] He also noted the studies estimated costs related to this excess body weight:

Direct Care Medical Costs = $23.9M
Lost Productivity Costs = $4.2M
Lost Work Days = 33,645 (approximately 157 lost FTEs)[21]

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Chief Bruce Brady, 90th SW/CCC, F.E. Warren AFB, politely interrupted Col Meigs' presentation, seeking clarity about the AF Weight and Body Fat program (WBFMP). In essence, Chief Brady felt that the program unfairly punished moderately heavy members who were capable of meeting all duty responsibilities and presented a professional image. Likewise, he stated, some overweight members avoided similar discipline, because tape measuring procedures to determine body fat favored members with thick necks. Chief Brady's question prompted a

[19] Hartung, G. Harley, Ph. D., et alt, "Prediction of Maximal Oxygen Uptake from Submaximal Exercise Testing in Aerobically Fit and Nonfit Men, Aviation, Space, and Environmental Medicine, August, 1993, pp. 735-736
[20] AFSPC "WarFit" Fitness Improvement Initiative Power Point presentation, AFSPC/SG, August 2003, slide 3
[21] Ibid, slide 3

spontaneous and aggressive discussion between Wing/CCs and fellow chiefs. Witnesses state that Gen Ed Eberhart, AFSPC/CC, let the conversation go for 30 minutes before calling a halt. He then directed Col Meigs to have his SG staff evaluate the WBFMP via the following statement:

> **"We spend a lot of money every year assisting our personnel in tobacco cessation and alcohol abuse treatment but do very little to assist those having trouble maintaining weight standards. It seems like we could do better."[22]**

Chief Brady had firmly hit on a challenging regulation. AFI 40-502, The Weight and Body Fat Management Program required members exceeding weight-height standards to have body fat assessed by anthropometric taping. Those exceeding body fat standards required formal enrollment in an education and disciplinary program with seven separate phases. The AFI dictated that commanders take an aggressive series of actions leading to administrative discharge for those not attaining body fat standards. Regardless of fitness levels, excessive body fat levels resulted in disciplining action. In addition, enrollees had to meet body fat standards prior to WPFMP disenrollment, even if they reduced their weight to proper standards.[23] Thus, airmen were actually discharged from the Air Force who <u>met</u> Air Force weight standards. Furthermore, despite mandatory enrollment processes for everyone exceeding weight standards, it appeared that commanders unequally enforced WBFMP enrollment for officers and enlisted personnel.[24] According to Dennis Davis, HQ AFPC/DPSART, between Jan 1993-May 2001 the AF

[22] Ibid, slide 5
[23] United States Air Force, Air Force Instruction, 40-502, The Weight and Body Fat Management Program, Air Force Fitness Program, 1 July 1999, pp 28-30
[24] AFSPC "WarFit" Fitness Improvement Initiative Power Point presentation, AFSPC/SG, June 2003, slide 14

discharged 4,086 enlisted members and 76 officers for failure to meet WBFMP standards, an astonishing 54:1 ratio.[25]

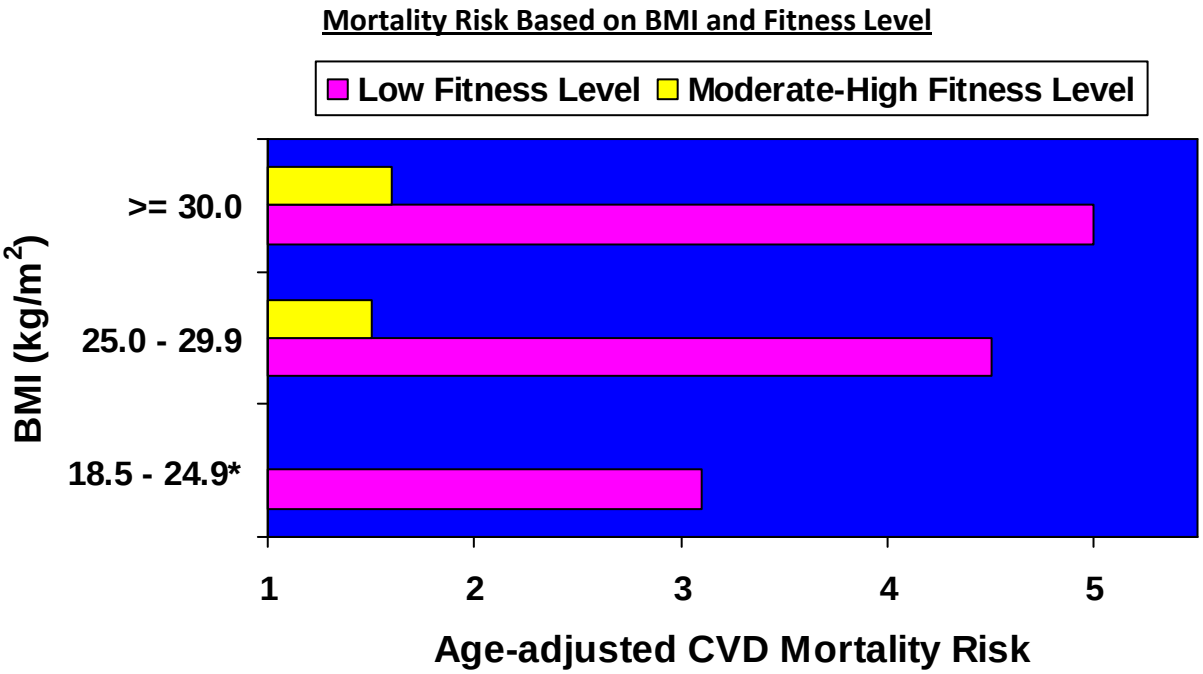
HQ AFSPACE/SG clinical staff quickly determined the answer to Gen Eberhart's tasker lay in improving airmen's fitness rather than solely concentrating on body fat reduction. Gen Eberhart agreed and created the AFSPACE "WarFit" pilot fitness program to run concurrently with the WBFMP. Over the next 24 months AFSPACE in concert with the AF/SGP staff assessed a series of fitness options directed at increasing personal fitness, improving commander and airman fitness education, and field testing a composite fitness assessment. Specifically, the WarFit program emphasized duty time workouts three times a week and unit led group workouts at least once a week. The assessment included the four-part score now used as the AF fitness test.

WarFit succeeded immediately in several areas, but most dramatically among those enrolled in the WBFMP. Upon initial WarFit testing, 28% of those enrolled were identified with fitness composite scores reflecting low health-risks. Dramatically, 40% of enrollees with high health-risk indicators were able to achieve low-risk standards after completing a 3-month intensive WarFit program. By contrast the official WBFMP Mandatory Fitness Improvement Program demonstrated only a 14% conversion of personnel from high-to-low health risk.[26]

These results paralleled civilian research which identified poor physical fitness as a greater health threat than body fat. In these studies, obese men, as defined by body max index (BMI) greater than or equal to 30 mg/kg2, reduced their cardiovascular disease risk by 333% after establishing moderate-to-high fitness levels. In contrast, unfit lean men, with BMIs

[25] Officer and Enlisted Discharge for Failure to meet Weight and Body Fat standards, HQ AFPC/DPSART, 7 May 2003
[26] Ellin, Deena, Talking Paper on AFSPC WarFit Results to Date, HQ AFSPC/SGO, Peterson AFB, CO, 15 May 03, NP

between 18.5-24.9 mg/kg2, had 2.2 times the relative risk for mortality compared to obese men who were fit (Chart 1).



Obesity, Fitness Level, and CVD Mortality
Lee, Blair and Jackson
Am J Clin Nutri. 1999;69:373-38 Chart 1

Dr. Steve Blair, President and Chief Executive Officer of the Cooper Institute (of Maj Cooper fame), a leading researcher of these studies stated, “It is better to be fat and fit than it is to be a normal weight and unfit in terms of mortality predictors. You cannot determine how fit someone is by looking at them,"[27]

Dr Rick Kausman, Australian Medical Association spokesman, concurs advocating for fitness over body size. "We’ve been brainwashed to believe that healthy weight is a size 8 . . . We’re clearly not all meant to have a BMI of 22, or be a size eight or 10. Human beings are meant to come in all shapes and sizes."[28]

[27] Bates, Brook, “Steve Blair speaks on the high risk of physical inactivity,” Talking on UGA, 26 Apr 2008
[28] Fit, Fat and Healthy, http://www.theage.com.au/articles/2003/10/05/1065292465637.html, 6 Oct 2003

AFSPC and AF/SGP with support of AF/CC began marketing WarFit information across the Air Force in 2002. Overall, WarFit met strong support, but consistently leadership raised concerns regarding "being able to afford" duty time for workouts and about the fairness of the abdominal circumference. Repeatedly, WarFit presenters answered duty time concerns using extensive corporate studies, including NASA and GE Aircraft. These civilian studies showed work hour fitness programs resulted in increased individual productivity, increased employee retention, and decreased employee sick days.[29] Abdominal measurement issues were addressed via many health care studies identifying fitness as more important than fatness, with abdominal circumference serving as an independent risk indicator for cardiovascular related morbidity and mortality.

Gen John P. Jumper, AF/CC, took great interest in the AFSPACE effort, and via the Air Force Medical Operations office directed the Human Systems Information Analysis Center to coordinate an independent technical review of the proposed program before making Air Force wide changes.[30] A panel of six civilian fitness and nutrition experts, along with Col Karl Friedl, USA, Military Operational Medicine Research Program Director, concluded "this programmatic approach should be considered a significant improvement in the Air Force fitness assessment and health screening policies. To ensure its acceptance…the Air Force should promote the emotional appeal of the program and minimize…the punitive measures. The program will need strong leadership support and aggressive marketing with an emphasis on establishing a *culture of fitness* (emphasis added)."[31]

[29] Roshetko, Thomas F., Lt Col, "An Analysis of Air Force Fitness Policy, Culture, and Impact, Air War College, Maxwell AFB, Al, 29 May 03, pp. 15-16
[30] Palmer, Barbara; Singer, Becky; "A Review of the Proposed Changes to the Air Force Fitness Program," The Air force Medical Operations Agency, February 2003, p. 1
[31] Ibid, p. 2

The 22-page report, while supportive of the program, identified numerous issues to beware of including the challenge of correlating body fat directly to a fitness-centric test. One reviewer stated, the "exact weighting" of categories is difficult, but the proposed scoring system is "certainly an educated judgment call." A second reviewer corroborated, that the category cutoffs points are "somewhat arbitrary and subjective," but "seem reasonable and justified in terms of our general knowledge of the relation between aerobic fitness levels, body fat and risk for morbidity and adequacy for physical readiness." In direct contrast, one panel member hesitated to endorse the cut points, "A great deal of additional work is needed to determine the reliability and validity of this scheme." In summary, the panel accepted the Fit-to-Fight assessment tenets as pragmatic, but untested, firmly agreeing that continued cut-point assessments would be required as additional data becomes available.[32]

The report put greater emphasis on creating robust health-fitness knowledge and stimulus. One panel member stressed the importance of communication by saying, "Structure, organization, consistency, communication, communication, communication, and general corporate culture are keys to your success."[33] A second member pleaded, to concentrate on the positive carrot and go lightly on the "looming career-stopping" stick. Additional direction exhorted the Air Force to market the program to each airman, directing them to understand the "relationship among fitness, fatness and health, and work toward inculcating fitness" into a lifestyle."[34] In the end, the panel supported the proposed Fit-to-Fight program as a strong plan, but argued that success required strong execution from the highest level of AF leadership down to each airman.

[32] Ibid, pp 12-13
[33] Ibid, p. 10
[34] Ibid, p. 10

Gen Jumper accepted the panel's recommendation and directed AF/SG to create a Fit-to-Fight program, including a new AFI that combined AFI 40-501, The Air Force Fitness Program and AFI 40-502, WBFMP. In preparation for the change, in late 2003, Gen Jumper directed added attention to fitness across the Air Force. On 1 Jan 2004, AFI, 10-248, Fitness Program, became operational.

In the January-February 2004 TIG Brief, Gen Jumper addressed the Air Force, stating that the amount of time we spend on fitness is not "consistent with the growing demands of our growing warrior culture. It is time to change that." Later in the letter he stated, "Over the past several months, I have received extremely positive feedback regarding our fitness changes. I've personally observed some outstanding leadership out in our Air Force—commanders and supervisors leading from the front and making fitness a priority in their daily schedules."[35] The Fit-to-Fight era was off and running.

[35] Jumper, John J., "Focus on Fitness—are you Fit-to-Fight?", TIG Brief, Jan-Feb 2004

The Fit-to-Fight Era

The Fitness Program debuted with enthusiasm and great support. Almost overnight, airmen of all ranks improved their fitness focus and data since program inception shows the Air Force has collectively improved fitness conditioning. AF bases now bear witness to daily group exercise, a site fairly non-existent prior to 2004. Unfortunately, several Fit-to-Fight components require additional attention. Below are a series of Fit-to-Fight brags and concerns.

Increased Fitness Center Usage and Facility Improvement

AF Services Agency (AFSVA) data reflects a "36% increase in fitness center usage since the onset of Fit-to-Fight."[36] In support of Fit-to-Fight, AFSVA revitalized their primary mission to a 3-prong approach: 1. support unit CC's fitness programs, 2. support Fitness Improvement Program enrollees, and 3. provide on-site, interactive customer service with equipment. In addition, AFSVA has exponentially elevated fitness facility quality as defined by a "star-level" grading system ranging from 1 (poor) to 5 (excellent). Since 2002, using this AF 5-star level program scores, AFSVA increased from three 5-star programs to 29 and 4-star level programs increased from 4 to 29 out of a total of 144 AF fitness centers. Though the "star-level" program began prior to Fit-to-Fight's inception, the new fitness push aligned well with this AFSVA goal. As a result, fitness center personal refocused their effort to better meet customers' needs. Now commanders and airmen enjoy better facilities for their far more frequent workouts. In turn, the better Fitness Center programs helped improve many facilities' star-rating.[37] Due to facility

[36] Air Force Services Agency, Right Start Brief Power Point Presentation, AF/SVC, Oct 08, NP
[37] Ibid, NP

usage demand, the AF also increased space requirements for 61 planned fitness center construction projects.[38]

Decreased Poor Fitness Scores

A substantial decrease in the percentage of "poor" composite fitness scores indicates that Fit-to-Fight is a success. According to annual AF fitness reports (Table 1-A, 1-B) the percentage of poor fitness scores among both genders and enlisted personnel increased slightly in 2005 before substantially decreasing in 2007.[39] [40] [41] Officers in the poor category decreased in 2005 and 2007. (Note: This author has been unable to obtain a copy of the 2006 report.)

Percentage of Total Force Air Force Personnel in Poor Fitness Category by Gender

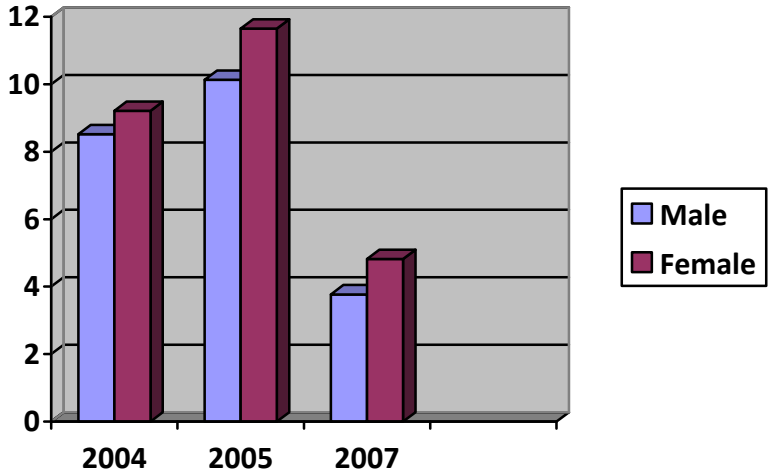


TABLE 1-A

[38] Air Force Services Agency, "Design: Fitness Centers," Air Force Facilities Services Facilities Design Guide, AF/SVC, 30 Dec 2005

[39] Air Force Fitness Program Annual Report, AFMSA/SG3O, 1 Jan 04- 31 Dec 04, pp. 2-4

[40] Air Force Fitness Program Annual Report, AFMSA/SG3O, 1 Jan 05 - 31 Dec 05, pp 2-4

[41] Air Force Fitness Program Annual Report, AFMSA/SG3O, 1 Jan 07 - 31 Dec 07, pp. 3-5

Percentage of Total Force Air Force Personnel in Poor Fitness Category by Rank

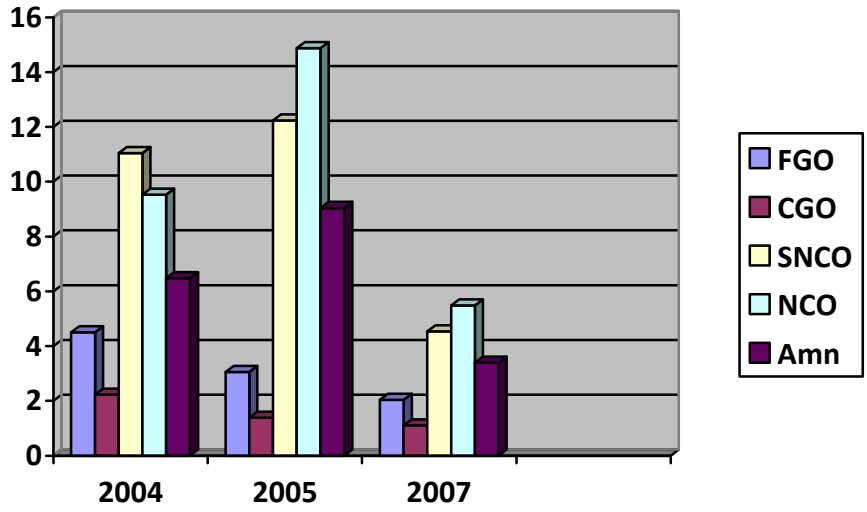


TABLE 1-B

When the AF components are separated there is variation noted in the improvement rate of poor fitness scores. According to the 2007 annual reports ADAF poor fit rates were reduced to 2.89%, whereas poor rates for the Air National Guard (ANG) and the Air Force Reserve (AFR) were reduced to 4.75% and 8.75, respectively. Interestingly, while ANG and AFR poor category rates declined each of the three recorded years, the ADAF increased in 2005 before significantly dropping in 2007 (TABLE 1-C).

Percentage of Air Force Personnel in Poor Fitness Category by Component

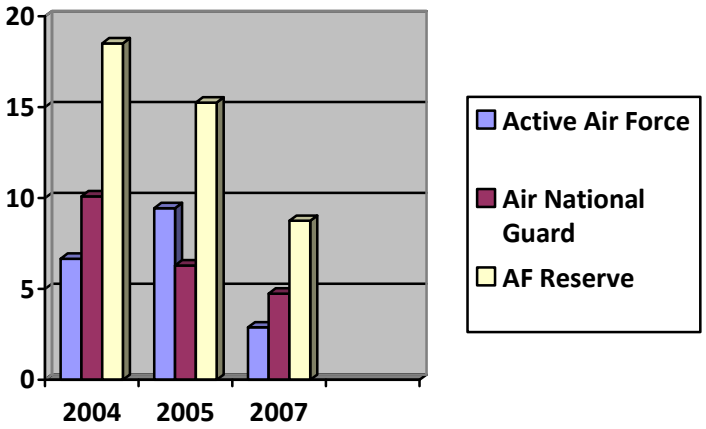


TABLE 1-C

Air Force Fitness Advisory Board

In 2006, AF/SG3 created an Air Force Fitness Advisory Board (FAB) for the purpose of assessing "scientifically valid and defensible research and guidelines that support fitness policy."[42] Establishing the FAB demonstrates the AF plans to continually refine the AF fitness program. In fact, under guidance of the FAB, the Air Force Audit Agency conducted a Fit-to-Fight program review at 15 AF locations between August 2007 and June 2008. The audit report, date 11 Dec 2008, identified significant variation in program implementation between squadrons and across the AF. The report suggested several improvements in the areas of unit-level fitness policies, fitness test exemptions, group exercise, and administrative action for airmen with poor

[42] Air Force Fitness Program Annual Report, 1 Jan 07 – 31 Dec 07, p. 6

fitness scores.[43] The FAB is currently reviewing theses recommendations and plans to provide new AF guidance in the near future.

Emphasizing Test Compliance over Personal Fitness Program

AF leadership's test-focused mentality continues to inhibit greater fitness progress. During WarFit marketing, the AFSPACE/SG staff continuously warned audiences that overemphasis on the annual test risked program success. In fact, the WarFit presentation included several slides that simply said, "ITS ABOUT A PERSONAL FITNESS PROGRAM." According to Deena Ellin, WarFit co-designer, prior to presentations the speakers would disperse laminated cards printed with those words. Whenever audience questions or comments became too focused on fitness test issues, the presentation speakers would have the audience hold up these cards. In fact, many times the audience spontaneously raised their cards without being prompted.[44] Unfortunately, as of today the AF still directs greater attention to the test than on each airman developing a year-round aerobic, strength, stretching and nutrition physical conditioning program. The test addresses how well an airman does for one hour each year, but does not reflect whether the airman worked out 156 days a year, as required for those attempting to maintain their current fitness level; or 260 times a year, as required, if they are trying to improve their current fitness level.

Individual and population fitness workout data is gathered on two separate military surveys, but unfortunately they do not align with the AF fitness assessment databases. One source of fitness activity can be extracted from the periodic DoD health-related behavior surveys which anonymously obtains active duty fitness behavior. Results have been published nine times

[43] Air Force Fitness Program Audit Report, Air Force Audit Agency, F2009-004-FD4000, 11 Dec 08, p. 2
[44] Ellin, Deena, AFSPC/SGP, Air Fitness Program Consultant, personal interview, Oct 2008

since 1980.[45] The last publication occurred in December 2006 and reported survey information collected from April-Aug 2005. This edition notes that in 2005 only 66.9% of active-duty Airman reported having moderate or vigorous physical activity in the past 30 days for 3 or more days per week. This percentage dropped to 45.9% when the question was restricted to only vigorous activity.[46] This is an alarming low rate considering this survey was conducted 16 months after the AF initiated Fit-to-Fight. It also identified only a slight improvement over the 64.9% rate identified by the AF Population Health Support Division in 2002--two years before Fit-to-Fight was initiated.[47]

A second source of fitness activity level can be extracted from the Periodic Health Assessment (PHA) data. Since January 2008, each airman has been required to complete an electronic health survey as part of their annual PHA assessments; this evaluation includes the following questions:

1. In a typical week, on how many days to you do any VIGOROUS activities for at least 30 minutes that caused heavy sweating, or large increase in breathing or heart rate?

2. In a typical week, on how many days to you do any MODERATE activities for at least 30 minutes that caused only light sweating, or slight to moderate increase in breathing or heart rate?

3. In a typical week, on how many days do you do any physical activities specifically designed to strengthen your muscles such as lifting weight, push-ups or sit-ups?

Though data has not been formally analyzed a cursory review of PHA questionnaire data from 156,286 airmen collected during the first 3 quarters of CY08 indicates a modest

[45] Department of Defense, 2005 Department of Defense Survey of Health Related Behaviors Among Active Duty Military Personnel, December 2006, p. 4
[46] Ibid, p. 153
[47] Roshetko, Thomas F., Lt Col, "An Analysis of Air Force Fitness Policy, Culture, and Impact, Air War College, Maxwell AFB, Al, 29 May 03, p. 5

improvement in fitness activity as compared to the 2006 DoD survey report. Specifically, the percentage of airmen meeting CDC recommendations for weekly physical activity (2 or more days of strength training and either 3 or more days of vigorous activity or 5 or more days of moderate activity) are demonstrated by the ranges depicted in TABLE 2.

AF PHA Activity Level Questions for 1st-3rd Qtr, 2008

		% Range Meeting CDC Weekly Physical Activity Goal
TOTAL		73.18% - 75.15%
AGE	17-24	74.84% - 77.36%
	25-29	76.01% - 77.97%
	30-34	74.16% - 75.20%
	35-39	69.59% - 71.92%-
	40+	66.69% - 68.01%
GRADE	Enlisted	73.49% - 75.77%
	Officer	72.01% - 72.86%
GENDER	Male	74.89% - 77.07%
	Female	66.18% - 67.36%
BMI	Healthy Weight	71.92% - 73.92%
	Overweight	74.37% - 76.53%
	Obese	73.02% - 74.04%

TABLE 2

In general, this data denotes a continued improvement in overall fitness activity among active duty members. Yet, several issues limit absolute comparison to the 2002 and 2006 reports. PHA data is client specific medical information, so surveys data are not anonymous. In

addition, PHA data summary combines compliance with aerobic conditioning and strength training, thus depicts a better evaluation of fitness activity. The 2002 and 2006 reports were anonymous and only evaluated aerobic fitness activity. Finally, previous studies were presented as total population data, thus cannot be directly compared to subcomponents listed in Table 2.

Despite these limitations, the PHA data presents several discussion points. The AF deserves credit for continuing to improve fitness activity levels. The PHA data indicates a 6-8% improvement in personnel meeting CDC fitness activity standards as compared to results from the less stringent 2006 DoD survey. Unfortunately, at least 24% of AF active-duty members continue to not meet AFI fitness activity requirements. Thus 61 months after the AF set a year-round workout goal for all members one in four airmen remain non-compliant. A closer look at the numbers presents several other findings of concern:

1. After age 29, fitness activity levels drop precipitously
2. Officers work out less then enlisted personnel
3. Females work out approximately 7.4% less than men.
4. Overweight airmen (BMI 25.1-29.9) work out more than obese airmen (BMI $\geq$ 30)
5. Overweight and obese airmen work out at a greater rate than airmen that are within healthy weight standards (BMI $\leq$ 25)

Although conclusive evaluation requires more extensive data analysis, this cursory review presents opportunities for immediate attention. My conclusion is that senior leaders and officers are not leading by example with regards to personal conditioning programs. The low female gender activity numbers reflect a significant deficit compared to men. It is possible low female fitness levels are merely related to medical conditions such as pregnancy, but assumptions should not delay further analysis and recommended resolutions. Accolades should be given for those overweight and obese members who established fitness regimes, yet 25% of

members with overweight health risks are not meeting the activity levels most likely to reduce their risk.

To date, the AF has not formally taken action to address personal fitness programs, yet has expended substantial effort refining the annual fitness exam. In fact, the Air Force has made at least eight changes to the annual assessment process. Though some fitness assessment components changes were merited and effective, at least three contributed to further distancing the Fit-to-Fight focus from the AFI's main goal. These problematic changes are as follows

1. 2005—Added A8.4, Run times/scores will be adjusted automatically in the AF FMS for those members who test at facilities with an altitude of 5, 000 feet or greater**.**

Rationale: Airmen running above 5,000 feet requires a point adjustment to account for the effects of altitude on aerobic capacity

Counter: The AFI already requires a 42-day acclimation period for all airmen prior to testing at new locations. This accurately compensates for altitude acclimation within the testing environments. Using the over 5,000 feet logic could be equally argued for all altitudes above sea-level, thus the only fair scoring system would be a sliding scale of points per run time at series of altitude intervals. It is interesting to note that no low-altitude college or professional sports teams are spotted "altitude adjustment" points prior to a game held above 5,000 feet.

2. 2005—Added 3.2.2.1, Full complement of points (30) is awarded to those with a body composition BMI of $\leq$25 kg/m2 regardless of AC measurements.

Rationale for change: AF leaders felt if weight-to-height association fell within "normal" standards, BMI should take precedent over AC and the full 30 points should be earned.

Counter to rationale: AC is an independent measure of relative-risk for cardiovascular disease. Multiple studies have determined AC risks are independent of height. Thus a male with a 40-

inch AC has equal risk for cardiovascular disease whether they are 5 or 6 feet tall. Likewise for women with a 35 inch AC. Furthermore, abdominal adiposity health risks are independent of BMI.[48] At the very least, points awarded for ≤25 BMI should not be the full 30 abdominal circumference points. Lt Col Lisa Schmidt, the original author of AFI 10-248, believes such individuals should receive at most 22.5 points, 75% of possible 30 points.[49]

3. 2007—Added fitness to OPRs/EPRs, requiring the most current fitness assessment be labeled as "met standards" (composite score 75 or greater) or "does not meet standards" (composite score less than 75), to include making reports referrals, if ratee does not meet standards

Rationale for change: AF leadership desired to factor health into promotion by giving additional information to promotion boards. This reinforced the importance of fitness in the warrior ethos and provided objective criteria when assessing which airmen should be separated from the Air Force.[50]

Counter to rationale: By making OPRs/EPRS referrals for airmen not meeting fitness standards it essentially makes the test a pass/fail event. Unfortunately, this compromises the intended purpose of the 1-100 composite score scale created to depict individual health risk along a continuum (this issue discussed in detail on page 31). In addition, the AF has not yet administered the fitness program sufficiently to warrant going to such a punitive route at this time. Specifically, as noted by the AF Audit Agency report, the AF needs commanders to improve compliance with duty time workouts as directed by the AFI 10-248."[51]

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[48] Kannel, WB, Cupples, LA, et alt; "Regional Obesity and Risk of Cardiovascular Disease: The Framingham Study, American Journal of Clinical Epidemiology, 44:183-190, 1991

[49] Schmidt, Lisa, Lt Col, e-mail dated 24 Oct 2008

[50] Winn, Patrick, "Get Fit (They're not Kidding)--Leaders want you to be strong. They'll help, but only so long", Air Force Times, 13 August 2007, p. 14

[51] Air Force Audit Agency, Air Force Fitness Program Audit Report, F2009-004-FD4000, 11 Dec 08, p. 2

Limited Use of Fitness Data Base

The Air Force Fitness Management Systems (AFFMS), was implemented in early 2004, and designed as the primary repository of fitness assessment information, including dates, scores, and demographic information. The AFFMS links with several other AF databases, including the Military Personnel Data System and the Dental Data System. In addition, the system generates a series of reports, including individual evaluations with trended composite scores over time and comprehensive unit-level reports. The reports are easy to generate and appropriate levels of database access are controlled at the base level.

The basic AFFMS program works well, but improvements need to be made. Currently many composite score cells have "null" values, making it very difficult to assure accuracy of reports, especially those compiled for large populations. The United States Air Force School of Aerospace Medicine identified this problem while compiling a comparative fitness score study from AFFMS data for the years 2004-2006. Col Jon Casbon, an AF flight surgeon and primary author of the study, stated that the data needed major cleaning up and that though the final analysis seems sound it "required us to take a lot of liberties and make assumptions."[52]

AF/SG's Clinical Information's Branch, AFMSA/SGKRP**,** provided this PSPs author with a large AFFMS database in an effort to duplicate the study using 2006-2008 fitness data. Unfortunately**,** null problems remained evident in thousands of cells, making it very difficult to assure data integrity and to accurately duplicate all assumptions made during Col Casbon's analysis. Due to these extreme challenges this author abandon efforts to perform a comparative

[52] Casbon, Jon Col, USAF, MC, FS, 55 MDOS/CC, personal interview 8 October 2008

study. The AF audit agency report also noted that AFFMS "data reliability showed an error rate that casts doubt on the data's validity."[53]

On the other hand, Dr. Casbon's study provides an outstanding review of fitness test assessment between three testing cycles starting at the program stand-up. The data compared individual airmen's composite fitness scores and 1.5 mile run times between 2004 and 2006. Amongst the many conclusions, the study determined that the "mean composite scores improved 3-5% for those in the Marginal fitness category (this category was eliminated in August 2007[54]) and 22% in the Poor category. Mean score for the 1.5 mile run improved by 3-4% in the Marginal group and by 10-12% in the Poor group."[55] Furthermore the study seemed to support the contention that airmen are focused on passing the fitness test and not improving personal fitness year-round. "As hypothesized, results of the study indicate the new Air Force Fitness Program had little impact on those who already met fitness standards. The proportion of individuals in the Good fitness category remained essentially unchanged and the Excellent category increased by only 6%. Despite this apparent upward migration, mean composite scores showed little change and mean 1.5 mile run times were slightly slower in the combined Good/Excellent group."[56]

HAWC Staffing

The Fit-to-Fight program experienced collateral damage due to changes made in October 2005 within AF Health and Wellness Centers (HAWC). In an effort to align active-duty positions with deployable skill sets and support manpower cuts, the AFMS transitioned the

[53] Air Force Audit Agency, Air Force Fitness Program Audit Report, F2009-004-FD4000, 11 Dec 08, p. 14
[54] Air Force Fitness Program Annual Report, 1 Jan 07 – 31 Dec 07, p. 6
[55] Casbon, JM, et alt, "Physical Fitness Improvement in a Cohort of United States Air Force Personnel, 2004 to 2006" United States Air Force School of Aerospace Medicine, Brooks City-Base, TX, p.7
[56] Ibid, p. 8

Health Promotion Manager (HPM) role to a contract Health Educator position. Though meritorious from a force structure standpoint, the decision unintentionally shifted many HAWC administrative duties to the civilian Fitness Program Managers (FPM). In fact, Deena Ellin states that in most HAWCs the FPM now serves as the de facto HPM.[57] The shift of these HPM duties coincided with additional FPM workload associated with maturing Wing fitness programs. Specifically, the fitness AFI required FPMs to conduct Fitness Review Panels for all members achieving 3 consecutive poor fitness scores. According to Ms. Terri Jordan, FPM, Keesler AFB, Mississippi, these panels take only 15-30 minutes to conduct, but can take several hours to coordinate the schedules all five panel members, In addition, FPMs are required to compile a 3-4 page post-panel report. (Note: The panels appear to foster greater testing success. Ms. Jordan estimates 60% of airmen receiving a Fitness Review Panel earn a composite score above 75 on their next fitness assessment).[58]

AFI 10-203, Duty Limiting Conditions, dated 27 Oct 2007, further expanded FPM responsibilities. In order to establish consistency across each base, FPM were granted sole authority to grant fitness exemptions for any member requiring exemptions greater than 30 days or for any member required to complete their fitness assessment in the next 30 days.[59] FPMs must meet with each member and establish a personalized exercise prescription that accommodates the member's duty restriction, yet maximizes fitness conditioning. The appointment and follow-up requires substantial planning and coordination.

Since 2004, many FPMs' have also added Running Gait Clinics in their HAWCs. These dynamic assessments "have been used in military clinics across the country to encourage safe

[57] Ellin, Deena, AFSPC/SGP, Air Fitness Program Consultant, personal interview, Oct 2008
[58] Jordan, Terri, Fitness Program Manager, Keesler Air Force Base, MS, personal interview, 7 Nov 2008
[59] United States Air Force, Air Force Instruction, 10-203,Duty Limiting Conditions, 27 Oct 06, p. 8

training and injury prevention by providing proper equipment."[60] The analysis includes video taping Airman running barefoot and with their current running shoes. Computer modeling determines foot-ground touch points, foot shape, height of arch, and degrees of foot pronation with each stride. Once the running gait is determined, the technician provides running education, then using a database determines the running shoe models best suited for proper fit, is deemed functionally correct for the individual's gait.[61] These assessments are extremely popular and take 20-30 minutes per airman. Per Mr. Brent Cowen, FPM, Hurlburt Field, Florida, "The clients absolutely love the shoe clinics. They are appreciative…that it points them in the right direction and…that it is free of charge. I would say 98% of the people that we have complete this training are totally satisfied."[62] At Hurlburt, the Running Gait analysis finds 75% of the airmen evaluated are wearing the wrong shoes.[63] Mr. Cowen emphasized the benefit by stating "having a shoe clinic in place provides us with very tangible results" and for those who "purchase the new shoes, the results are almost immediate."[64] Unfortunately, per Mr. Cowan, the demand for running shoe analysis exceeds the scheduled appointments. Attempts are made to accommodate walk-in customers, but that is extremely "disruptive to the work flow."[65] Due to the many HPM taskings, Mr. Cowan can only schedule six appointments per week, plus adds, on average, two

[60] Tomasetti, Shari and Jacobs, Mark, "Digital image running injury prevention program," Armed Forces Comptroller, Winter 2003, http://entreprenuer.com/tradejournals/article/101529110.html p. 2
[61] Ibid, p. 1
[62] Cowen, Brent, Fitness Program Manager, Hurlburt Field, FL, e-mail—Subj: Fitness/Running Shoe information, 5 December 2008
[63] Cowen, Brent, Fitness Program Manager, Hurlburt Field, FL, e-mail—Subj: Fitness/Running Shoe information, 26 November 2008
[64] Cowen, Brent, Fitness Program Manager, Hurlburt Field, FL, e-mail—Subj: Fitness/Running Shoe information, 5 December 2008
[65] Cowen, Brent, Fitness Program Manager, Hurlburt Field, FL, e-mail—Subj: Fitness/Running Shoe information, 26 November 2008

walk-ins. In total he provides approximately 400 analyses annually. At this rate it would take 19 years to assess the entire base of 7,710 active-duty members.

Complicating the FPMs success, many HAWCs continue to operate without the administrative support personnel that each Wing is required to provide. When finally assigned these personnel need significant training to fully support all HAWC functions. Unfortunately, these employees regularly rotate out of these roles leaving gaps and causing another steep learning curve when a replacement eventually arrives. In the mean time, the small HAWC staff must cover front desk duties, take all calls, and schedule attendance at the myriad of HAWC sponsored classes, panels, or one-on-one evaluations. A survey of FPMs in the Spring of 2008 noted that only 33% of HAWCs were manned with permanent administrative support personnel.[66]

In addition to the duties described above, the FPMs oversee administrates the installation fitness program.[67] These duties include annual training of unit fitness program monitors, approving unit group physical training programs, and conducting annual quality checks on each unit's fitness and testing program.

Since 2004 the AF HAWCs have experienced a perfect storm. As the AF transitioned to a robust fitness platform and improved the active-duty profile system, the FPM's responsibilities increased by approximately 50%.[68] Unfortunately, this coincided with a decrease in overall HAWC staffing. According to Col Casbon, who has evaluated this situation from the HQ and

[66] Ellin, Deena, Air Force Fitness Program Consultant, Peterson AFB, CO, e-mail—Subj: 3As in HAWCs, 21 November 2008
[67] United States Air Force, Air Force Instruction, 40-501, The Air Force Fitness Program, 1 October 1998, p. 14
[68] Ellin, Deena, Air Force Fitness Program Consultant, Peterson AFB, CO, personal interview, 21 November 2008

Wing level, “HAWCs are not resourced adequately to provide the assistance required by the fitness AFI”[69]

Limited Fitness Education

Health and fitness education remain limited for the general AF population. Those scoring below 75 composite points on annual fitness testing receive education via Healthy Living Program, Body Composition Improvement Program, and/or Fitness Improvement Program. Currently, no formal fitness education is mandatory for all airmen.

Ms. Shannon Crumpton, Air War College, Exercise Physiologist summarized this concern, “I believe the message was clear as to the intent of the fitness program, however it lost it's gusto not long after roll-out.” [70] Dr Casbon provides a similar view, “The educational component is lacking: how do people learn about proper aerobic conditioning, strength/flexibility training, and especially healthy eating? This is generally only offered to those who are deemed unfit in the fitness test.”[71]

[69] Casbon, Jon Col, 55 MDOS/CC, Offut AFB, NE, e-mail dated 16 October 2008
[70] Crumpton, Shannon, Unit Fitness Program Manager, Maxwell AFB, AL, e-mail dated 5 November 2008
[71] Casbon, Jon Col, 55 MDOS/CC, Offut AFB, NE, e-mail dated 16 October 2008

AF Fitness: The Way Ahead

The AF Fit-to-Fight effort remains in a toddler stage. Fortunately, the AF established the FAB as a forum to continuously evaluate fitness program progress and propose improvements. Below are several fitness improvement options for the FAB to consider for immediate implementation.

Developing a Fitness Culture not a Fitness Program

AFI 10-248's explicit main goal is for each airman to develop a robust fitness lifestyle across the spectrum of aerobic conditioning, strength/flexibility training, and healthy eating. To date, most Fit-to-Fight attention has been focused on annual testing, group exercise, and administrative action. The AFI goal remains sound, thus the AF must formerly develop action to meet this goal. Specifically, I suggest the AF change the AFI name to "Health and Fitness Program." This simple change will call attention to the AFIs far broader intent of establishing full spectrum health and fitness for each airman.

The FAB should also develop a series of health/fitness education tools for each Airman to review. Furthermore, unit Physical Training Leaders should regularly incorporate exercises from the education tools into group fitness activities with a brief reminder of the value this exercise adds to fitness programs. Education tools could be easily added to recurrent computer based training requirements. Another education option would be to hold in-person briefings similar to suicide prevention and sexual assault prevention training that could include personalized health-fitness information at the unit, group, or wing level. Commanders and SNCOs also need leadership training on health and fitness issues, specifically addressing their role in guiding subordinates to establish/maintain healthy lifestyles. The best mode of health/fitness training can be determined by the FAB, but individual and leadership education is long overdue.

Establish Random Fitness Testing

The current annual testing requirement presents several issues related to fairness and value. The annual fitness assessment meets the DoD annual test requirement, but fails to assure "service members maintain physical readiness." To illustrate, two members respectively earning a 75 and a 100 composite score both technically earn passing assessments. Yet, the statistical likelihood these members will "maintain" physical readiness for the next twelve months vary dramatically. The composite score 0-100 spread reflects a health-fitness continuum measured against morbidity-mortality rates and muscular endurance standards. The value of each successive test point is merely a slight decrease of risk. Thus equating a 75 score and 100 score as equally reflecting sufficient fitness for the next 365 days is incongruent with science.

The AF further muddied the value of annual assessments by applying the fitness scores to OPR/EPRs and thus reinforcing a distorted pass-fail labeling. In essence, an airman earning a 75 today earns the label "pass" while the airman earning 74.9 is labeled "fail." From a health care and physical readiness perspective, the difference between these airmen is imperceptible. Yet, Airman "75" need not prove his fitness capability for another 12 months, while Airman "74.9" receives a series of beneficial and derisive interventions, to include retesting every 90 days until achieving a "passing" score**.**

Random fitness testing provides significant resolution to this problem. In essence, airmen with passing scores would be at risk for random fitness testing before the next due date. Risk of random selection could be adjusted relative to each airman's most recent fitness score; thus an airman with a 75 score faces significantly greater risk of random test selection than an airman with a 95 score. Randomly selected airmen would need to test within five duty days of

notification. Minimal extensions for mitigating circumstances (e.g. on leave, experiencing their menstrual cycle, within their acclimation period) would be accounted for within the rules.

Clearly the logistics needed to be worked out, but AF fitness experts believe random testing puts the focus on year-long fitness activity and prevents a surge effort just prior to a self-selected fitness test date. Lt Col Laura Trent, Chief, Operational Health Promotion and Public Health Public Health AMC/SGP stated, "A randomized fitness exam schedule would likely improve our overall fitness."[72] Ms. Crumpton, simply states "random testing reinforces being at the ready" and help members "still too conditioned to 'the test' rather than understanding the overall benefit received from improved health and fitness."[73] Deena Ellin feels random testing would have benefit, but suggests a possible alternative option of having "units conduct a monthly or quarterly practice assessment and self-manage those individuals who did not meet standards" in order to "make it a more positive experience than a punitive requirement."[74]

Lt Col Schmidt supports random testing, but identifies some concerns, "a random test would be a great way to keep members motivated throughout the year, but we would need to make it manageable for commanders"[75] Col Casbon, also believes random testing would encourage people to work out more often. "Many people get fit in time for their annual evaluation and then ease up on fitness activities the rest of the year. I think random testing would encourage people to work out often enough to be able to pass the test, and I like the idea of adjusting based on fitness score; but, I'm afraid there could be a tremendous administrative tail to

[72] Trent, Laura Lt Col, Chief, Operational Health Promotion, Scott AFB, IL, e-mail—Subj: Seeking your help---Fitness Program questions, 23 October 2008
[73] Crumpton, Shannon, Unit Fitness Program Manager, Maxwell AFB, AL, e-mail dated 5 November 2008
[74] Ellin, Deena, Air Force Fitness Program Consultant, Peterson AFB, CO, e-mail—Subj: WarFit question, 24 October 2008
[75] Schmidt, Lisa, Lt Col, 42 MDOS/CC, Maxwell AFB, AL, e-mail--Subj: Fitness Program questions, dated 24 Oct 2008

random testing. Look at the drug demand reduction program. You have to build the system and processes to randomly identify people for testing. I would not want to see the additional burden placed on commanders."[76]

Col Casbon has valid concerns, but the Drug Demand Reduction Program (DDRP) does provide historical support for random testing. Drug use amongst military members became rampant during the Vietnam War, reaching 42% in 1971.[77] During this period an amnesty program resulted in 16,000 servicemen admitting to heroin use at a level requiring drug abuse treatment.[78] In response, President Nixon developed a urinalysis program for the purpose of detection, education and rehabilitation.[79]

Though successful for treatment, the non-punitive urinalysis did not reduce drug use to acceptable levels. In fact, "the 1980 DoD Survey of Health Related Behavior Among Military Personnel showed that 27.6 percent of service members had used an illegal drug in the past 30 days"[80] "The need for the stronger drug policy was further supported by a jet crash in May 1981 on the aircraft carrier USS Nimitz. Autopsies of 13 personnel killed in the crash revealed that 6 had recently used marijuana and the pilot had especially high levels of antihistamine not prescribed by a doctor."[81] The lethal accident and stunning survey results ushered in a punitive drug abuse detection process.

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[76] Casbon, Jon Col, 55 MDOS/CC, Offut AFB, NE, e-mail—Subj: Fitness Program questions, 16 October 2008

[77] Robins, LN. The Vietnam Drug User Returns. Special Action Office for Drug Abuse Prevention, Series A, Number 2, May, 1974.

[78] Elaine Casey, "History of Drug Use and Drug Users in the United States", Schaffer Library of Drug Policy, pg 29. http://www.druglibrary.org/schaffer/history/casey1.htm

[79] Biegel, Mark M. and James F. Holcomb. "A Study Of Department of Defense Drug Abuse Prevention and Control Programs," Contract DAHC 15-73-C-304. Cambridge MA: Arthur D. Little, Inc., January 1975 (AD-AO17576)

[80] DDRP history resource Reference In: Highlights, 2002 Department of Defense Survey of Health Related Behaviors Among Military Personnel, http://www.tricare.mil/main/news/dodsurvey.htm

[81] Clausen, Perrin. "EA-6B Crash on Nimitz Attributed to Pilot Error," Aviation Week & Space Technology, 117: 22-23, 16 August 1982

DoD established DDRP in 1981 to deter members from using prohibitive drugs which negatively impact the unique hazardous conditions associated with military work. Since its inception, DDRP has claimed stunning results. In 2007, positive AD drug testing remained below the 2% goal. In fact, per Mr. William O. Cooley, Air Force Drug Demand Reduction Program Consultant, Keesler Air Force Base, MS, the AF rate has remained below 1% for 15 consecutive years.[82]

In 2000, DDRP studies determined that the vast majority of positive drug tests occurred among the ranks of E1-E4 and 01-02. In response, DoD implemented SMART TESTING and increased annual random testing among these ranks to 100% of the total population. Per AFMOA, "there was an initial small increase in positives when the program was implemented that lasted for a couple of years. However, in 2005 the positive rate was less than 2004 and continued to decrease through 2007 with 2008 expected to show further declines in positives."[83]

Similar to "zero tolerance" for illicit drug use, the AF should establish "zero tolerance" for poor fitness. Random fitness assessments would greatly support this effort and greatly reinforce the AFI yearlong fitness goal. With the goal of encouraging year-long fitness, random fitness testing could be initiated using SMART TESTING format. There are a many options, but I would suggest, individuals with fitness scores 75-85 would be at risk for random testing starting 45 days after the previous test. Members with scores of 85-95 would be at risk starting at 90 days. In addition, those achieving over 95 would be exempt until their annual date. Any airman not chosen randomly would test before their normal annual due date. The random

[82] Cooley, William O., Air Force Drug Demand Reduction Program Consultant, 81 MDOS, Keesler AFB, MS, personal interview, 10 November 2008

[83] Cooley, William O., Air Force Drug Demand Reduction Program Consultant, 81 MDOS, Keesler AFB, MS, e-mail—Subj: Smart Testing, 1 December 2008

selection process could be done centrally or at the Wing-level, and then sent down via the HAWC to Unit Fitness Program Managers. Though similar to random drug testing, the five duty day testing window makes the entire administrative process less time sensitive than those associated with urinalysis. The FAB should determine a feasibility study for random fitness testing.

CMSgt Rodney McKinley, AF/CCC, has suggested testing should be conducted at least twice a year. A recent Air Force Times article also stated McKinley is encouraging commanders to direct "on-the-spot" testing.[84] Though possible, this practice will result in inconsistent administration between units. A random test would mitigate this risk and prevent allegation of commander bias.

Wear of Pedometers with Military Uniforms

There are many days demands of military life prevent time for formal physical workouts. Airman, on these days, would benefit from additional walking during normal daily activities. Fitness experts suggest taking 10,000 steps per day (approximately 5 miles) as a reasonable goal to achieve adequate daily physical activity levels. Pedometers, small devices worn on waistbands, count the number of steps taken by a person over a period of time. A review of 26 pedometers studies with 2,767 participants concluded users significantly increased their physical activity by 2,491 steps per day more than control participants. Overall, pedometer users increased their physical activity by 26.9% over baseline. When data from all studies were

[84] Hoffman, Michael; "PT Shape-up: Air Force Officials Looking at Everything to Improve Fitness Program," The Air Force Times, 24 November 2008, p.14

combined, pedometer users decreased their body mass index by 0.38 and noted favorable changes in their systolic blood pressure.[85]

Currently, military members are restricted to wearing a single device on their waste in any uniform. Amending policy to permit a pedometer plus one other device would be a simple, pragmatic, and visionary step toward improving the AF fitness culture.

Improve HAWC Staffing

The AF/SG Health Promotions Operations recently secured additional HAWC manpower for bases exceeding 5,000 active-duty members. During FY10, 24 bases will gain fitness technicians. In addition, contract Health Educators (HE) in the many HAWCs will be converted to government civilian employees; these civilian job descriptions will be written to allow HEs to assume the HPM role. Per Maj Dana Whelan, Chief, AF Health Promotion Operations, these changes will help reduce the burden on exercise physiologists and reestablish a balance within the HAWCs. "It is not a complete answer for the HAWCs, but it will definitely help, especially the large HAWCs."[86]

AF/SG and FAB should perform a comprehensive manpower study of HAWC's to determine actual staffing requirements, then aggressively provide proper personnel. AF leadership should ensure every Wing fills the HAWC administrative position and maintain that person in place for minimal period of time, as determined appropriate by the FAB.

Increase Analysis of Fitness Data

AFMSA and FAB should develop robust use of the health and fitness data available via AFFMS, PHA surveys, and other medical databases. Studies, especially if carried out long-term,

[85] Bravata, Dena A, et alt., "Using Pedometers to Increase Physical Activity and Improve Health: A systematic review," JAMA. 21 November 2007, p. 2296

[86] Whelan, Dana Maj, Chief, AF Health Promotion Operations, personal interview, 8 December 2008

could assess the impact of self-reported activity levels on health and annual fitness scores. Repeating the Casbon study using 2007 and 2008 data would be a great initial study. Refining the AFFMS data entry process to minimize null cells and other data clutter needs to be a priority, but should be fairly easy to accomplish.

Conclusion

AF leadership can be proud of building the strongest fitness program in AF history. Improvement in personal fitness and total force fitness is evident by significantly reduced poor fitness test scores and slightly improved fitness activity levels. Unfortunately, 24% of the force still has not achieved adequate fitness levels to meet AF standards or help decrease personal morbidity and mortality risks associated with low-level fitness. The Air Force should pat themselves on the back for taking a giant step forward, but then immediately set a course on continued advancement. Specifically, the Air Force must direct efforts toward building an Air Force fitness culture that emphases robust, comprehensive fitness lifestyles, rather than a fitness program that focuses on annual fitness testing and administrative details.

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